Training and Capacity Building Plan

Ongoing training and staff development will be critical to the long-term success of ITS in the MAG region. A Training and Capacity Building (TCB) Plan was developed that outlines training areas, needs, workshops, and guidelines specific to the MAG region. A stakeholder survey identified priority areas for professional capacity building in the MAG region:

- Cost/Benefit Analysis
- Regional Concept of Operations
- Technology Analysis Range of Options
- ITS Projects in the MPO Regional Transportation Plan/TIP
- System Integration
- Capacity Analysis – Transmission: Wireline vs. Wireless

FHWA/National Highway Institute and related courses were identified to address the regional training needs. Web-based training also was identified as a cost-effective alternative.

Summary of Regional Initiatives

The following projects are recommended for deployment in the MAG region. More specific information about these projects, including costs and deployment timeframes, is included in the Implementation Plan.

Traveler Information Systems - Integrate systems (FMS/AZTech/Highway Closure and Restriction System). Install AZTech workstations, implement arterial speed maps, and expand use of highway advisory radio.

Freeway Management System - Expand FMS components and coverage, provide link between Freeway Service Patrol and traffic management, upgrade ADOT's TOC, provide travel time displays on VMS.

Arterial Management Systems - Expand/add arterial SMART Corridors, implement Roadway Condition Reporting System (RCRS), upgrade/add municipal TMCs and traffic signal systems, implement advanced railroad crossing warning devices, implement ITS pedestrian/bicycle projects.

Transit Management System - Implement transit signal priority program; provide arrival times at transit stops; integrate transit routing with incident information; and implement scheduling, trip planning and vehicle management system.

Incident, Emergency and Event Management Systems - Develop Regional Incident Management Plans, develop a Regional Incident Management Coalition, integrate traffic/emergency dispatch system, enhance PIR Special Event Traffic Management System, continue to implement Sky Harbor Airport Parking Management System, develop municipal parking and event traffic management systems.

Telecommunications Infrastructure - Implement regional WAN, expand network of fiber and conduit throughout region, provide interconnectivity among local agencies (WAN and fiber).

Planning and Outreach Support - Develop local ITS deployment plans, update local and regional ITS strategic plans, develop a Regional Concept of Operations, facilitate ITS Training and Capacity Building Program for professionals in the region, develop and facilitate an ITS outreach program with local agencies and the public, perform ITS project evaluations.

Commercial Vehicle Operations - Continue with the ADOT ITS/CVO Program, implement appropriate ITS technologies on CANAMEX Corridor through the region.

Information Management - Expand and enhance regional archived data server.

Project Team

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ITS Strategic Plan Update

November 2000

MARICOPA ASSOCIATION of GOVERNMENTS

In September of 1999, the Maricopa Association of Governments (MAG) embarked upon an update of the region's Intelligent Transportation System (ITS) Strategic Plan prepared in 1995. Since the original plan was developed, many of the projects identified as high priority have been deployed throughout the region and are operational. Local agencies are looking ahead to build upon the existing systems and infrastructure and plan for future transportation needs.

The MAG ITS Strategic Plan Update provides a roadmap for deploying ITS to address regional transportation needs for the next 20 years. Consistency with the National ITS Architecture was a key element of the Plan and this will help to position the region for future federal funding opportunities.

Plan Update Guided by Regional ITS Stakeholders

Under the auspices of the MAG ITS Committee, a multijurisdictional group of ITS champions was established to guide, review project deliverables, and provide input to the MAG ITS Strategic Plan Update. The Regional ITS Stakeholders Group (RISG) was comprised of representatives from public, private, academic and public safety agencies, and membership was open to anyone interested. The RISG met monthly to review the Plan's progress, provide feedback to the consultant team about project deliverables, and establish consensus on future directions for the Plan. Vision and Mission Statements for the Plan Update were established early in the project:

Mission

To plan, implement and evaluate appropriate ITS technologies, consistent with the national ITS program, that address regional goals and objectives of the transportation users.

Vision

Enhance the quality of life in the MAG region by applying technology and information-sharing to improve the multimodal transportation system.

RISG Members

Jim Book	City of Glendale (Chairman)
Tom Buick	MCDOT
Bob Ciotti	Phoenix Transit
Terry Connor	DPS
David Cowley	AAA Arizona
Jim Decker	City of Tempe
Don Dey	TransCore
Mike Frisbie	City of Phoenix
Alan Hansen	FHWA
Sarath Joshua	MAG (Project Manager)
Mary Kihl	ASU
Brian Latte	City of Chandler
Jim Matteson	Phoenix Aviation
Scott Nodes	City of Peoria
Ellis Perl	City of Surprise
Steve Ramsey	City of Scottsdale
Alan Sanderson	City of Mesa
Dale Thompson	MCDOT
Bruce Ward	Town of Gilbert
Tim Wolfe	ADOT

Stakeholder Involvement

A multi-step plan was developed and carried out to involve stakeholders throughout the region. They were invited to participate in the Plan's development through a variety of avenues. Focus group workshops, questionnaires, a project Web site, a toll-free hotline, and a project e-mail address allowed public and private stakeholders to contribute to the identification process. The workshops and questionnaires yielded valuable information about regional transportation needs from a broad range of perspectives. Many of the high priority needs focused on improved signal coordination, enhancements to transit service, improving incident response and management, and providing timely, accurate information to motorists.

A project Web site (http://www.mag.maricopa.gov/ITS/index.html) was developed. Stakeholders also were kept informed by project newsletters distributed at key points in the Plan's progress.

User Service and Market Package Plans

The needs and priorities identified by the stakeholders were matched with the 31 ITS user services to determine which ones best addressed the regional needs. User services are broad categories of ITS tools used by travelers and transportation providers. The candidate user services were then prioritized as to need or criticalness for the successful deployment of ITS in the region.

Next, market packages were selected identifying the required technologies to meet the specific regional needs. Market packages are groups of ITS technologies that work together to deliver a transportation service, and are essentially more refined user services.

The following deployment timeframes for the MAG region were established. Selected user services and market packages were designated as short-, medium-, or long-term deployments.

- Short-term ------- 2002-2006
- Medium-term -----2007-2011
- Long-term -------- 2012-2021

MAG Regional ITS Architecture

The project team used the guidelines established by the National ITS Architecture (NA) to develop a long-term architecture vision for the region. In addition to complying with the NA, the MAG regional ITS architecture was coordinated with the existing architectures for AZTech, ADOT's Freeway Management System, and Arizona's statewide architecture. Each subsystem in the architection vision is identified as public or private depending on the sector that will be responsible for the deployment. The architecture vision includes existing and planned elements, and provides for the addition of new components and new ITS cities. Likely communications infrastructure used to connect the various subsystems also is identified.

Telecommunications Plan

A Telecommunications Plan was developed for the MAG region to support the architecture vision as well as to foster a desired level of agency connectivity. This Plan considered the existing communication infrastructure and agencies already connected via the existing communications links. As new systems come on line and more agencies begin deploying ITS, a regional Wide Area Network (WAN) will be needed. A substantial amount of fiber is already in place from which to build this regional WAN, and the Telecommunications Plan provides for a phased expansion of the fiber network based on available budget and agency communications requirements. The Telecommunications Plan also identifies opportunities for shared-resource partnerships with the private sector to help offset the cost for communications infrastructure.

Evaluation Plan

An Evaluation Plan was prepared that includes a framework for conducting ITS evaluations on future projects in the region. This framework includes an overview of the FHWA-recommended evaluation process, agency responsibilities, evaluation data collection and usage considerations, the resources and infrastructure needed to conduct various types of evaluations, and potential uses for evaluation data in the regional transportation planning process. A key recommendation is that a percentage of each ITS project's budget be put into a pooled fund to support the evaluation of representative ITS projects. The evaluation strategies presented in the Evaluation Plan provide agencies in the region with a foundation and tools to develop evaluation activities once projects are ready for deployment.

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MAG Regional ITS Architecture Vision